The Washington Statewide Transportation Framework for GIS Project (WA-Trans)

Purpose

The Washington Statewide Transportation Framework for GIS (WA-Trans) Project was established to create a statewide transportation dataset for use in Geographic Information Systems (GIS) applications. This dataset will combine the best available data with up-to-date information on roads, railways, ferries, aviation, ports, and non-motorized transportation infrastructure. WA-Trans data can be used in Transportation Planning, Transportation Safety, Emergency Management, Law Enforcement, and other business functions benefiting agencies across Washington. It also supports statewide layers including hydrography (waterways), cadastral (property boundaries), and orthophotography (aerial images).

Impacts & Benefits

WA-Trans identified an 11 percent return on investment statewide. Some key benefits include:

- Emergency Management and Homeland Security — Regional and statewide transportation maps for multi-jurisdictional emergency management and response, ability to use in combination with other datasets to support identification of infrastructure vulnerability.
- Transportation Functions — Use of integrated dataset to provide clear decision support for collision location analysis, accurate high accident locations, transportation deficiency analysis system wide, development of transportation funding priorities and support for transportation models and other planning activities.
- Environmental Analysis and Management — Impervious surface analysis of watersheds containing roads, trails, and rails (tracking storm water systems along roadways); support of salmon enhancement planning involving ecosystem assessments.

Project Organization and Approach

WA-Trans is a consortium of partners from 7 states, 8 cities, 24 counties, MPOs & RTPOs, 13 state agencies, 7 federal agencies, 9 Tribal Nations, and 5 regional and transit planning organizations. Led by the Washington State Department of Transportation (WSDOT), a multi-jurisdictional Steering Committee makes project decisions and provides oversight for WA-Trans activities.

Project approach involves a series of steps:

- Initiation — Outreach, chartering, business needs assessment and prioritization
- Analysis — Data model, standards, tool definition, architecture, scoping, pilot definition, and initial project funding
- Pilot Projects —Test and prove concept, software prototyping, and risk mitigation
- Implementation — Build the project statewide
- Maintenance — Continue to collect the best data, improving data quality and accessibility.

WA-Trans is currently in the pilot portion of development. These pilots allow WA-Trans to learn and research various aspects of the project, and to collect valuable geospatial data for statewide implementation.

The Puget Sound Pilot combines data from King and Pierce Counties into a transportation dataset. Processes being tested include data maintenance, data quality assurance, and interagency agreements. This pilot implemented transformation software, a critical component necessary to create and maintain a seamless statewide transportation dataset. Partners include King County, Pierce County, Puget Sound Regional Council, and the US Geological Survey, with future expansion to Kitsap and Snohomish Counties, and forest land data.

The One-Road Pilot is a joint effort funded by a number of states who want to build a similar WA-Trans-type project for themselves. The pilot supports developing software to support the sharing and integration of GIS transportation data. The goal is to get the data connected between counties as well as between states. It will serve as the basis for cost and labor estimates, and other project decisions. Partners include Benton, Franklin and Walla Walla Counties in Washington, Morrow and Umatilla Counties in Oregon, the Benton-Franklin Council of Governments, and the US Dept. of Energy. State partnership is comprised of California, Idaho, Nebraska, Tennessee, Ohio, Oregon, and Washington.